

REMARKS/ARGUMENTS

As explained more fully below, Applicant has amended independent Claims 1, 9, 18, 26, 34, and 41, and the claims depending therefrom, to more clearly define the claimed invention. Applicant requests reconsideration of Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 in view of the Amendments and Remarks set forth herein.

Incorrect Status Identifier

In preparing the current Amendment, Applicant noted that Claim 18, as set forth in the Amendment dated May 30, 2006, included the status identifier (original), but should have included the identifier (currently amended). Although the amendments to Claim 18 are apparent from the Amendment, Applicant is bringing this error to the attention of the Examiner in the event the Examiner believes any corrective action is necessary.

The Rejections Under 35 USC § 112 First Paragraph Should Be Withdrawn

The Office Action rejects Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 under 35 U.S.C. § 112, first paragraph, asserting that the claims are not commensurate with an enabling disclosure nor do they enable one of ordinary skill in the art to make or practice the invention. In support of the rejection under 35 U.S.C. § 112, first paragraph, the Office Action now asserts that the Figures/Tables do not recite the specific particle size range for the coarse and fine aggregate bottom ash used. The Office Action further notes that there is overlap between the particle size ranges recited for the coarse portion and the fine portion of the bottom ash.

It appears from the comments in the Office Action that the Examiner desires a clear demarcation between the coarse portion and fine portion in order to distinguish between these two portions. However, such a line of demarcation would not only be inconsistent with the disclosure in the specification, but appears to be based solely on the meaning attributed by the Examiner to the terms "coarse" and "fine," rather than how such terms are defined in the specification. In this regard, the specification clearly discloses that one portion of the bottom

ash is “primarily” coarse and one portion of the bottom ash is “primarily” fine. (See page 11, ll. 18-22). In addition, the specification clearly explains that in preparing the “primarily” coarse portion “not all particles having a particle size below about 5.9 mil (150 μ m) are removed by screening.” (See page 11, ll. 20-21).

While Applicant remains of the opinion that the rejection under 35 U.S.C. § 112, first paragraph is improper, Applicant nonetheless has amended independent Claims 1, 9, 18, 26, 34, and 41 to clarify that the bottom ash comprises a “first portion” and a “second portion” that are mixed together. Moreover, consistent with the specification and the Figures/Tables, the claims now recite that the particle size of the “effective amount of bottom ash” is less than .75 inches and includes a particle distribution wherein approximately fifty percent of the bottom ash has a particle size less than about .012 inches. Applicant submits that these amendments should obviate any concerns expressed by the Examiner as to the overlap between the first and second portions. In view of these amendments, Applicant requests withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

The Rejections under 35 USC §112 Second Paragraph Should Be Withdrawn

The Office Action rejects Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 under 35 USC §112, second paragraph, as failing to set forth the subject matter the Applicant regards as the invention. Specifically, the Office Action asserts that use of the term “effective amount” for water is indefinite. Applicant has amended independent Claims 1, 9, 18, 26, 34, and 41 to recite that the effective amount of water comprises approximately 1.125 gallons of water per cubic foot of cementitious composition to approximately 1.96 gallons per cubic foot of cementitious composition. Applicant reserves the right to submit claims in the present application or in a continuation application claiming priority thereto reciting “water” commensurate with the scope of the application as originally filed.

For the reasons discussed above, Applicant respectfully submits that Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46, as amended, are definite and have adequate support for purposes of 35 U.S.C. § 112, second paragraph, and the rejection thereunder should be withdrawn.

The Objection to the Specification or Original Disclosure Should Be Withdrawn

The Office Action objects to the specification or original disclosure, asserting that the particle sizes for what was used for the coarse and fine portions of the bottom ash in the examples provided in Figures 7A, 7B, 8A and 9A to obtain the compressive strengths are not disclosed. Applicant disagrees. Figure 7C provides a sieve analysis (*i.e.*, particle size analysis) for the fine and coarse portions of the bottom ash in each of the seven mixtures identified in Figure 7A and 7B; Figure 8B provides a sieve analysis for the fine and coarse portions of the bottom ash in the mixture identified in Figure 8A; and Figure 9B provides a sieve analysis for the fine and coarse portions of the bottom ash in the mixture identified in Figure 9A.

In addition, Applicant has amended independent Claims 1, 9, 18, 26, 34, and 41 to clarify that the bottom ash comprises a “first portion” and a “second portion” that are mixed together. Moreover, consistent with the specification and the Figures/Tables, the claims now recite that the particle size of the “effective amount of bottom ash” is less than .75 inches and includes a particle distribution wherein approximately fifty percent of the bottom ash has a particle size less than about .012 inches.

Accordingly, Applicant submits that the objection to the specification or original disclosure should be withdrawn.

The New Matter Rejection is Overcome

The Office Action asserts that the recitation in the claims “less than .006 inches” is new matter, since the specification discloses “less than about .006 inches”. Applicant has amended independent Claims 1, 9, 18, 26, 34, and 41 to recite “less than about .006 inches”. Applicant submits that the new matter rejection should be withdrawn.

The Rejections Under § 102 and § 103 Directed to the Claims Are Overcome

The Office Action rejects Claims 1, 3-14, 17, 18, 20-22, 24-27, 29, 32-34, 36, 37, and 39-46 under 35 U.S.C. § 102 (a) and (b) as being anticipated by or, in the alternative, under 35

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U.S.C. § 103 (a) as obvious over U.S. Patent No. 5,849,075 to Hopkins et al., U.S. Patent No. 5,772,751 to Nisnevich et al., U.S. Patent No. 6,528,547 B2 to Shulman, U.S. Patent No. 6,030,446 to Doty et al., U.S. Patent No. 4,050,950 to Brewer et al., U.S. Patent No. 4,050,261 to Brewer et al., US Patent No. 3,961,973 to Jones, US Patent No.'s 6,676,744 B2, 6,676,745 B2, and 6,872,246 B2, and U.S. Published application 2005/0235883 to Merkley et al., as well as the abstracts of Korea Patent No. 2002055481 to Lee, Korea Patent No. 2002006569 to Lim, publication to Naik et al., and the publication to Lai. Applicant respectfully submits that the cited references do not teach or suggest, either singularly or in combination, the invention as claimed.

Specifically, independent Claims 1, 9, 18, 26, 34, and 41 recite a cementitious composition comprising a bottom ash and cement wherein the bottom ash comprises a first portion and a second portion, the second portion comprising a particle size between .75 inches to .003 inches and the first portion comprising a particle size of less than about .006 inches, the first and second portions being mixed together to provide a particle distribution for the bottom ash wherein approximately fifty percent of the bottom ash has a particle size less than about .012 inches.

In contrast, the Hopkins '075 patent, Nisnevich '751 patent, Shulman '547 patent, Doty '446 patent, Hironaka '940 Japanese patent, Kornemann '092 patent, Eun '290 application, Berg article, Gahfoori article, and Lai article, each disclose combining cement, bottom ash and other materials, such as silica fumes, fly ash, expanded Polystyrene, blast-furnace slag and other adjuvants and fillers. However, none of the cited references, either alone or in combination, teach or suggest a cementitious composition, a cementitious product, or a method of manufacturing a cementitious product, comprising bottom ash and cement wherein the bottom ash comprises a first portion and a second portion, the second portion comprising a particle size between .75 inches to .003 inches and the first portion comprising a particle size of less than about .006 inches, the first and second portions being mixed together to provide a particle distribution for the bottom ash wherein approximately fifty percent of the bottom ash has a particle size less than about .012 inches. Notably, the Office Action does not assert that any of the cited references, either alone or in combination, teaches or suggests this feature of the

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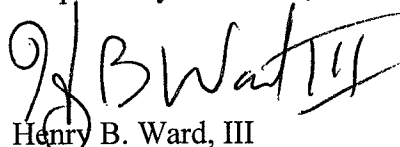
claimed invention. Applicant submits that this feature of the present invention is important as it enables the creation of a more cost-efficient cementitious composition that is lightweight and capable of forming a structural product having high compressive strength.

Accordingly, it is respectfully submitted that independent Claims 1, 9, 18, 26, 34, and 41, as amended, and the claims depending therefrom, include recitations that patentably distinguish the claimed invention over the cited references and that the rejections directed to these claims be withdrawn.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,


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